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AUTHOR Newman, Ian M.
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ABSTRACT

This report on adolescent tobacco use in Nebraska focuses on grades 8 and 10. The results presented are based on over time; (2) the changing nature of tobacco use from smoking to use as a chew or snuff; (3) the viewing of smoking and chewing as one health issue of tobacco exposure; (4) definition of a smoker for purposes of this study; (5) data from studies of smoking rates in Nebraska adolescents in 1980 and 1988 which indicate that although the rate of smoking had not changed, females were smoking at a younger age; (6) a comparison of the incidence of smoking in Nebraska students in 8th and 10th grades to that of students nationwide which indicated that in general the rates were no higher for Nebraska students, except for 8th grade females whose rates were higher than the rates nationwide; (7) the proportion of Nebraska 8th- and 10th-grade males who smoked and chewed (this was found to be significantly higher than in the nation as a whole); (8) the proportion of the Nebraska 8th- and 10th-grade males who were tobacco exposed (this was found to be significantly higher than across the nation as a whole); (9) rates of tobacco exposure for Nebraska females (these were higher than for the nation also); (10) the history of adolescent tobacco use; (11) the nature of adolescent tobacco use; and (12) explanations for the lack of decline in adolescent tobacco use. (ABL)

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Technical
Report
20

ADOLESCENT TOBACCO USE IN NEBRASKA

Adolescent Tobacco Use in Nebraska

Ian M. Newman, Ph.D.

Nebraska Prevention Center for Alcohol
and Drug Abuse
University of Nebraska-Lincoln
Lincoln, NE 68588

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Adolescent Tobacco Use in Nebraska

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Adolescent Tobacco Use in Nebraska

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Adolescent Tobacco Use in Nebraska

It is logical for those surrounded by the talk and activity associated with the "war on drugs" to be concerned about the one drug responsible for the most deaths and the greatest health care costs: tobacco. Tobacco production and sale to adults is legal, and this seems to overshadow the fact that tobacco is a highly addicting drug clearly linked to early deaths and unnecessary disabilities. The U.S. Department of Health and Human Services reports 390,000 deaths per year directly attributable to cigarette smoking; that is more than the total deaths annually attributable to alcohol, marijuana, crack cocaine and heroin combined.[1] In Nebraska in 1989, 2,290 deaths were directly attributable to cigarette smoking. These deaths do not include deaths attributable to smokeless tobacco use, which has increased nationally 40% between 1970 and 1986.[2]

This paper addresses two questions:

1) Is the rate of tobacco use among Nebraska adolescents increasing or decreasing?

2) How do rates of tobacco consumption compare among Nebraska adolescents and adolescents in the nation as a whole?

The declining proportion of male tobacco smokers over time represents one of the real successes of public health education. Unfortunately, these educational efforts have not been as successful with females. The more important change, from a public health standpoint, is the nature of tobacco use.

Twenty years ago practically all tobacco users smoked their tobacco. Today, tobacco is increasingly used as chew or snuff. Public health education has not effectively contested the promotion of "smokeless" alternatives to cigarettes, the implication in advertising that "smokeless" tobacco is a "safe" alternative, and the use of athletes to promote tobacco products.

Smoking and chewing have too often been seen as separate parts of a major health issue. Smoking and chewing are not separate aspects of this issue: they should be seen as two parts of one issue: *tobacco exposure*. If tobacco exposure is examined, it is apparent that the decrease in smoking in response to anti-smoking campaigns is largely offset by the increase in use of chewing tobacco by *both* males and females.

Adolescent smoking rates from 1980-1988

In 1981 the Nebraska Prevention Center for Alcohol and Drug Abuse (NPCADA) published smoking rates of a sample of 1,900 Nebraska students in Grades 7-12 collected in 1980.[3] In 1988 the NPCADA gathered comparable data from a sample of 7,187 Nebraska students in Grades 7-12.[4] Part 1 of this report is based on data from these two samples.

A smoker is defined as a person who has smoked as many as 100 cigarettes and currently smokes at least weekly. Table 1 shows that the rate of smoking among adolescent males in 1980 and 1988 has not changed significantly for any of the ages surveyed. While the percentage of female

smokers aged 17-18 was essentially the same in 1980 and 1988, for females ages 12-14 and 15-16 there was a significantly larger proportion of smokers in 1988 than in 1980. This suggests that in 1988 females were beginning their smoking careers at a younger age than in 1980.

Table 1
Smoking prevalence among Nebraska students

	1980		1988	
Age	Female	Male	Female	Male
12-14	3.5%	6.0%	6.8%	5.8%
15-16	16.2	13.3	19.9	14.0
17-18	23.2	22.0	22.8	22.1

Tobacco use among adolescents in Nebraska and in the United States

In 1988 Health Education, Inc., as part of a contract with the Centers for Disease Control, surveyed a random sample of 3,600 students in Grades 8 and 10 in Nebraska. The instrument used was the National Adolescent Student Health Survey which was also administered to some 11,000 8th and 10th grade students nationwide. These two data sets made it possible to compare the tobacco use practices of Nebraska students and students in the rest of the county.

Table 2
Smoking and chewing of 8th and 10th graders

	8th Grade			
	Female		Male	
	U.S.	Neb	U.S.	Neb
Smoking only	16.3	19.0	11.8	11.6
Chewing only	.4	.6	6.5	7.9
Both smoking & chewing	.7	2.4	3.3	8.0
Total tobacco exposure	17.4	22.0	21.6	27.5
N =	2,667	844	2,775	898

These data allowed an assessment of students who only smoked cigarettes, who only chewed tobacco in one form or another and who *both* smoked and chewed. Taken together, these three measures accounted for the total proportion of *tobacco-exposed* adolescents.

Smoking only

Among the males, the proportion of smokers at the 8th grade in Nebraska (11.6%) was comparable to the nation as a whole (11.8%), but in the 10th grade there was a smaller proportion of male smokers in Nebraska (13.7%) than in the nation as a whole (17.8%)(Table 2).

in the United States and Nebraska

10th Grade

Female		Male	
U.S.	Neb	U.S.	Neb
28.1	28.1	17.8	13.7
.5	1.7	8.0	13.2
.6	2.6	6.3	11.8
29.2	32.4	32.1	38.7
2,887	899	3,050	919

This differed from the situation for Nebraska females. A larger proportion of 8th-grade females smoked in Nebraska (19.0%) than in the U.S (16.3%). Among the 10th graders the proportion of female smokers in Nebraska and in the U.S.was equal—28.1% (Table 2).

In general the rates of smoking among Nebraska students were no higher than for students in the U.S. except for the 8th-grade females who reported a rate of smoking slightly higher than their peers in the nation.

The most striking finding in the 1988 data is the continued higher proportion of females who smoke compared to males at both the 8th and 10th grade in Nebraska and the nation (Table 2).

Chewing only

The rate of chewing among 8th-grade males in Nebraska is slightly higher than in the nation as a whole (7.9% Nebraska; 6.5% U.S.) However, among the 10th-grade males the rate of chewing in Nebraska is much higher than in the nation (13.2% Nebraska; 8.0% U.S.).

While the rate of chewing among females is still very low at both the 8th and 10th grades, it is worth noting that a larger proportion of Nebraska 10th-grade females chewed than in the nation.

Smoking *and* chewing

When individuals who *both* smoke and chew are combined, the proportion of Nebraska 8th- and 10th-grade males who do both is significantly higher than in the nation

as a whole. While the proportion of females who *both* smoke and chew is very low, there are significantly more females in Nebraska in both the 8th grade and 10th grade who smoke and chew than in the nation.

Total tobacco exposure

If tobacco use, or *exposure*, is selected as the critical variable, instead of just smoking *or* chewing, a clear picture of the potential health risk that Nebraska young people are willingly exposing themselves to emerges from the data. Among the 8th-grade males the proportion of tobacco-exposed adolescents (smokers and chewers and those that do both) is significantly higher than it is among the nation as a whole (27.5% Nebraska, 21.6% U.S.). This pattern is repeated at the 10th grade with almost 39% of the males in Nebraska exposed to tobacco while only 32% of the 10th-grade males in the nation are exposed.

Among the 8th grade females, 22% of Nebraskans are exposed to tobacco compared to a little more than 17% in the nation as a whole. This difference is also evident in the 10th grade where more than 32% of the 10th-grade females are tobacco exposed compared to only 29% in the nation as a whole.

Considering the strongly addicting qualities of tobacco this rate of exposure is concerning.[5] It is especially concerning because chewing appears to be a more readily addicting pattern of tobacco use than smoking and because of the higher proportion of tobacco chewers among the Nebraska sample.

Validity of self-reported behaviors

Often self-reported survey data are criticized on the assumption that young people do not honestly report their tobacco use. Careful studies of Nebraska students suggest that when adolescent tobacco use data are collected under the conditions used in the collection of the data reported here, accurate self reports are obtained.[6]

Placing adolescent tobacco use in an historical perspective

The earliest reputable large-scale survey of adolescent smoking occurred in 1958 in Portland, Oregon. At that time among the sample of 10th graders, 29.6% of the males and 13.0% of the females were smokers.[7]

A replication of the Portland study carried out in Rockford, Illinois, in 1966 identified 25.4% of the 10th grade males and 19.5% of the 10th grade females as smokers.[8]

Data from the first national telephone surveys of adolescent smoking conducted in 1968 and 1970 suggested similar rates. Among 16- and 17-year-old males, 23% were identified as smokers in 1968 and 27.3% in 1970. Among the females, 13.7% in 1968 and 16.9% in 1970 were identified as smokers.[9]

Despite the tremendous efforts devoted to public and school based smoking education, the rate of *tobacco exposure* among Nebraska adolescents in 1988 was higher than among comparable groups of Nebraska adolescents in 1980 and among comparable groups of adolescents in the

nation in 1968 and 1970, in Illinois in 1966, and in Oregon in 1958. The higher rates of *tobacco exposure* for Nebraska adolescents are due to higher rates of smoking among females and higher rates of chewing among males.

Adolescents and adults

While it is well known that practically all adult tobacco users began the practice before the age of 20 years, not all adolescent users remain users into adulthood. Smoking, and to a lesser extent chewing, in the earliest stages can be described as a tentative behavior. For some users, physiologic addiction is a rapid onset phenomenon, while for others more time is required. Some users never experience addiction. Unfortunately, no one can tell ahead of time how they will react to tobacco and accordingly how much it will risk their health.[10]

In 1986, among Nebraska adult males 7.3% chewed tobacco. In western Nebraska, 10.8% of the adult males chewed tobacco, which is less than the rate for adolescents.[11] Unfortunately no studies exist to validate the accuracy of self-reported tobacco use among Nebraska's adults.

The lower rate of tobacco chewing among adults does not contradict the higher adolescent rates. Some adolescents will quit and some adults will die early of tobacco related disease. The higher rates of adolescent tobacco chewing would predict higher adult use rates and higher death rates in future years. Tobacco chewing was relatively uncommon when most present-day adults were adolescents, the time when smoking and chewing practices begin.

Among Nebraska adults in 1988, 23.4% (287,000) reported themselves as smokers—less than the proportion of Nebraska adolescents.[12] Again, the tentative nature of the practice of smoking means that some adolescents will quit. Likewise, the absence of corroborative studies of the accuracy of adult self-report data, the rate of early death among smokers, and the fact that past practices related to initiating smoking may differ greatly from present day practices all serve to suggest that the higher adolescent rates do not in any way contradict, and are not contradicted by, the lower rates of smoking among adults.

Explanations

No single cause can be identified in the search for reasons why tobacco use among adolescents has not declined as medical evidence of the risks associated with tobacco use increased. Many people simply blame and credit the tobacco industry and its successful advertising campaigns for increases in tobacco use. Clearly the issue is not that simple.

The tobacco advertisers claim their only intention is to encourage brand switching, not to encourage adolescents to begin tobacco use. Such does not appear to be the case. Considering both the higher death rates of tobacco users and the trend among adults to quit, a tobacco industry that did not recruit new users would find its market disappearing. The size of the industry's advertising investment, the trend toward more advertising in youth-oriented publications, the

selective sponsoring of youth-oriented events and the industry's lobbying against practices to limit adolescent use suggest that marketing and advertising are directed at young people and at encouraging them to use tobacco.

But.

Communities have repeatedly refused to treat tobacco as a controlled substance for adolescents and enforce existing laws.

Quality school-based education programs are rare. Instructional time frequently is insufficient, teachers are poorly prepared, and often school policies and staff practices contradict any "no tobacco" messages taught in the classrooms.

Parents and others either do not recognize that tobacco is one of the most addicting drugs available or fail to share this information widely.

Tobacco does not appear to be a part of the "war on drugs." The failure to recognize tobacco as *the* major killer drug, as well as its legality for adults, suggests to many people that tobacco use is preferable to the use of illegal drugs.

Smoke-free initiatives perhaps have made chewing tobacco seem "preferable" to smoking and inadvertently encouraged its use.

Until communities recognize tobacco is the major cause of drug-related deaths and address the 390,000 premature deaths each year it causes, it is unlikely that present trends in tobacco use will change.

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